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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 09/651,130
Filing Date: August 30, 2000
Appellant(s): MALMGREN ET AL.

Travis D. Boone
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed January 29, 2007 and Summary of Claimed Subject Matter filed April 27, 2007 appealing from the Office action mailed September 18, 2006.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The following are the related appeals, interferences, and judicial proceedings known to the examiner which may be related to, directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal:

Appeal Brief No. 2006-0784 of present invention was dismissed on April 26, 2006, because appellants filed a Request for Continued Examination on April 7, 2006.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief filed April 27, 2007 is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

US 6,261,679 Chen et al. 7-2001

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1, 2, 4-13, 15 and 20 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Chen et al. [US 6261679].

Chen's invention relates to an open-cell fibrous absorbent structure for use as feminine care pads, diapers, etc., for the intake (absorption), distribution, and retention (storage) of human body fluids [col. 2, lines 5-49]. The absorbent fibrous structure comprises hydrophilic fibers and a foamable binder, which is 25% or greater by weight of the fibers [col. 5, lines 14-16]. Any known cellulosic fibers, such as fibers derived from chitin, chitosan, starch, or other polysaccharides can be used [col. 7, lines 35-55]. The absorbent structure comprises a polymeric binder material which may be rendered foamable at least in part due to the presence of foaming agents such as a surfactant by mechanical agitation [col. 11, line 47 to col. 12, line 5]. Useful water swellable binder materials include polysaccharides such as carboxymethyl celluloses, etc., and synthetic polypeptides such as polyaspartic acid, etc. [col. 12, line 22-45]. Cells formed by the foamable binder material can be about 3 mm or less; specifically about 1 mm or less, more specifically about 0.3 mm or less, still more specifically about 0.1 mm or less, and most specifically from about 0.02 mm to about 0.2 mm [col. 42, lines 33-38]. A planar absorbent fibrous structure may have a gradient in cell sizes that become progressively smaller towards one region, such as a top surface or back surface, terminating in a surface skin which can be partially or substantially liquid impervious for preventing lateral liquid leakage from the surface [col. 15, lines 23-45].

For claims 1, 2, 4-13, 15 and 20, Chen's disclosure of a region, e.g., surface skin, of partially or substantially liquid impervious is interpreted as a layer being partially porous with progressively smaller cells, or substantially non-porous, and the cell size gradient at the region reads on the (first) pore size distribution between 0 to 3 μm of the instant invention as claimed. Chen's foamed binder cell size range of 3 mm or less to progressively smaller range of 0.02 mm to about 0.2 mm reads on the second pore size distribution of the instant invention. Chen is silent about the absorption rate, liquid distribution capacity, liquid storage capacity and gel liquid absorption of the absorbent structure. However, since Chen discloses an absorbent article having substantially the same structure and composition (an open-celled foam composite of hydrophilic fibers and water swellable binder) for the same use (i.e., intake (absorption), distribution, and retention (storage) of human body fluids), and manufactured by the same process steps of a) mixing fibers and binder resins [col. 11, lines 47-55; and col. 21, line 43 through col. 22, line 25], b) foaming by gas injection or mechanical agitation [column 16, lines 10-24], c) optionally incorporating a crosslinking agent [col. 29, line 20 through col. 31, line 34], d) molding foamed mixture [col. 26, lines 13-23], and e) freeze drying [col. 17, line 66 through col. 18, line 39] as the instant invention [see specification of instant invention, pages 9 and 10], the various absorbent properties (absorption rate, liquid distribution capacity, liquid storage capacity and gel liquid absorption) are deemed to be either anticipated, or obviously provided by practicing the invention of the prior art for the same end use. Finally, since Chen teaches that the absorbent structure may be used as diapers, incontinence articles, etc., the necessarily required shape of these articles for fitting a wear's body reads on the three-dimensional anatomic shape of the instant invention.

(10) Response to Argument

Appellants argue at pages 3-4 that Chen at most discloses a generic open-cell foam, and Chen does not disclose the claimed foam properties or the claimed open-cell polymeric foam, nor teach one skilled in the art how to optimize the multiple absorption properties. However, since Chen teaches all the result effective manufacturing steps employed by the instant invention for making a foam which has substantially the same structure, composition, generally required properties, and use as the instant invention, absence of any distinction in structure and composition, the examiner asserts that the claimed absorption properties are deemed to be either anticipated, or obviously provided by practicing the invention of Chen for the same end use.

Pointing to Examples 1-3 and Table 1 in the present specification, appellants argue at pages 4-5 that Chen does not recognize the competing (opposite) absorption properties, because adjusting the process parameters to provide a foam with a high liquid storage capacity typically results in a low absorption rate, therefore Chen does not teach how to balance the process parameters and the instant invention is not taught by Chen. However, since Chen discloses that a planar absorbent fibrous structure may (optional) have cells that become progressively smaller towards one region, such as a top surface or back surface, terminating in a surface skin which can be partially or substantially liquid impervious for preventing lateral liquid leakage from the surface, clearly Chen recognize that this optional feature effects a higher liquid retention (storage capacity) and a lower absorption rate (partially or substantially impervious).

Appellants argue at pages 5-6 that Malmgren's Declaration filed April 7, 2005 shows that a sample prepared according to Example 3 of Chen does not have the claimed absorption properties, therefore Chen's products do not necessarily possess the characteristics of the

claimed absorbent materials. However, Chen's invention is not limited by the conditions set forth in Example 3. Further, since the Declaration fails to show any cell size data, it is deficient for lacking a fair comparison between the closest embodiment of Chen (e.g., having a porosity gradient feature which is partially or substantially liquid impervious) and the instant invention.

Appellants argue at page 7 that the instant invention unexpectedly discovered a foam that has optimized both absorption rate and liquid storage capacity. However, appellants have previously pointed out that Examples 1-3 and Table 1 of the present invention show that these two parameters have an opposing trend, i.e., they cannot be optimized simultaneously. Clearly, appellants' argument is incommensurate with their disclosure in the specification.

Appellants argue at pages 8-14 that "gel liquid is firmly bound in cells by the swelling walls," (specification page 2) and "gel liquid refers to liquid held in pores smaller than 3 μm" (specification page 5), with a pore size distribution between 0 and 3 μm the presently claimed absorbent material is able to store gel liquid, whereas Chen is deficient of an indirect teaching of a pore size less than 20 μm, and does not recognize or suggest gel liquid storage. However, Chen's disclosure of a region, e.g., surface skin, of partially or substantially liquid impervious is interpreted as a layer being partially porous with progressively smaller cells, or substantially non-porous, the cell size gradient at the region reads on the pore size distribution between 0 to 3 μm of the instant invention as claimed. While Chen is silent about the term "gel liquid", Chen's teachings clearly encompass the capability of gel liquid storage.

(11) Related Proceeding(s) Appendix

Copies of the court or Board decision(s) identified in the Related Appeals and Interferences section of this examiner's answer are provided herein.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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